

**REMARKS**

1. Claims 1-13 are pending and stand rejected in the application.

Claims 1, 4, 7 and 10-12 have been amended.

Claims 6, 8, 9 and 13 have been canceled without prejudice.

New claims 14 and 15 have been added.

2. Claim Rejections under 35 U.S.C. § 112

The Examiner rejects claims 1, 4, 6, 9 and 13 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant believes that the amendments to claims 1 and 4 have successfully overcome these rejections. Withdrawal of the rejection of claims 1 and 4 under 35 U.S.C. § 112 is kindly requested.

Claims 6, 9 and 13 have been canceled and thus their rejections are moot.

3. Rejection of Claims under 35 U.S.C. § 103(a)

The Examiner rejects claims 1-6 and 8-13 under 35 U.S.C. § 103(a) as being unpatentable over Hashimoto (US 5,309,214) in view of Reynolds (US 3,825,335).

Claims 6, 8, 9 and 13 have been canceled and thus their rejection is moot.

In view of the amendments made to the independent claim 1, the rejection of the remaining claims has been overcome and should be withdrawn.

Claim 1, as amended, now recites:

A refractometer comprising:

a refractometer prism, on a measuring surface of which a sample to be analyzed is placed;

a light source for illuminating the sample, wherein the light source comprises a plurality of discrete light sources;

a receiver for receiving light reflected from the sample; and

**an optical diffraction grid for reflecting light from each of the discrete light sources into a single light point, wherein the light from each of the discrete light sources having different angle of incidence at the optical diffraction grid and same diffraction angle.**

(emphasis in bold added). As highlighted by the text in bold, claim 1 requires an optical diffraction grid that receives the light beams from each of the plurality of discrete light sources that are reaching the optical diffraction grid at different incident angles and then diffracts them into a single light point. This optical diffraction grid is shown in FIG. 2 and described in paragraphs [0021] – [0022] of the Specification. This novel feature of the invention allows combining different colored light sources (i.e., different wavelengths) into one illumination light beam by having each discrete light source to have different angle of incidence at the optical diffraction grid.

In contrast, the Hashimoto nor the Reynolds references disclose such optical diffraction grid. In rejecting now-canceled claim 8, the Examiner asserts that the Hashimoto reference discloses an optical diffraction grid that reflects the light from the discrete light sources **1** or **2** onto a point **11**. (Citing column 5, lines 13-16 and FIG. 2 of Hashimoto). In Hashimoto, as shown in FIG. 2, the light from the discrete light sources **1** and **2** are reflected by a series of flat mirrors **5**, **6** and **7** towards the point **11**. The mirrors **5**, **6**, and **7** in Hashimoto are flat mirrors where the light from the light sources **1** and **2** have the same incident angles.

The mirrors **5**, **6**, and **7** of Hashimoto are not the optical diffraction grid required by the amended claim 1 which takes light from each discrete light sources each approaching the optical diffraction grid at different incident angles and then leave the optical diffraction grid combined into one beam. Furthermore, the Reynolds reference also fails to disclose such optical diffraction grid.

Thus, the combined teachings of Hashimoto and Reynolds, even if they can be properly combined, does not disclose the invention claimed in the amended claim 1 and does not obviate the amended claim 1 under 35 U.S.C. § 103(a). Withdrawal of the rejection of claim 1 and its allowance are kindly requested.

Because claims 2-5 and 10-12 depend from claim 1, they are also allowable over the combination of Hashimoto and Reynolds. Withdrawal of the rejection of claims 2-5 and 1-12 and their allowance are kindly requested.

The Examiner rejects claim 7 as being unpatentable over Hashimoto in view of Reynolds and further in view of deJong (US 4,063,822). In rejecting claim 7, the Examiner relies on deJong for the proposition that deJong teaches lenses that optimize the transmission of the light through the interference filters at the same time.

Even if that were true, however, because claim 7 depends from claim 4 which in turn depends from claim 1, claim 7 incorporates all limitations of claim 1 and requires the optical diffraction grid discussed above. And because deJong does not teach the optical diffraction grid either, the combined teachings of Hashimoto, Reynolds and deJong, even if they can be properly combined, does not disclose the invention claimed

in the amended claim 7 and can not obviate claim 7 under 35 U.S.C. § 103(a).

Withdrawal of the rejection of claim 7 and its allowance are kindly requested.

4. New Claims

New claims 14 and 15 depending from claim 1 have been added to further define the invention.

5. Conclusion

For the reasons presented above, Applicants believe that the amended claims are allowable over the prior art of record. Reconsideration of this application and allowance are requested. This response is being submitted within the shortened statutory period for responding to the Office Action and no fee is believed due. If a fee is required, however, the Director is hereby authorized to charge an appropriate amount to Duane Morris Deposit Account No. 04-1679.

Respectfully submitted,

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